

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference 30757/39814	FOR FURTHER ACTION		See item 4 below
International application No. PCT/US2004/000814	International filing date (<i>day/month/year</i>) 14 January 2004 (14.01.2004)	Priority date (<i>day/month/year</i>) 14 January 2003 (14.01.2003)]	
International Patent Classification (IPC) or national classification and IPC 7 G08B 13/14, 21/18			
Applicant UNITED TECHNOLOGIES CORPORATION			

1. This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 *bis*.1(a).
2. This REPORT consists of a total of 11 sheets, including this cover sheet.

In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.

3. This report contains indications relating to the following items:

- | | |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input checked="" type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

4. The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).

	Date of issuance of this report 15 July 2005 (15.07.2005)
The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Athina Nickitas-Etienne
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PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

REC'D 05 JUL 2004

PCT PCT

To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/US2004/000814

International filing date (day/month/year)
14.01.2004

Priority date (day/month/year)
14.01.2003

International Patent Classification (IPC) or both national classification and IPC
G08B13/14, G08B21/18

Applicant
UNITED TECHNOLOGIES CORPORATION

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/000814

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2004/000814

Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43*bis*.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	7-9,18-23,27-56
	No: Claims	1-6,10-17,24-26
Inventive step (IS)	Yes: Claims	22,23,37-39
	No: Claims	1-22,24-36,40-56
Industrial applicability (IA)	Yes: Claims	1-56
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V.

- 1 The following documents are referred to in this communication:

D1 : US 4 750 197 A (HANNON MARWAN ET AL) 7 June 1988 (1988-06-07)

D2 : US 6 400 268 B1 (LINDSKOG KJELL) 4 June 2002 (2002-06-04)

D3: US 5 565 858 (GUTHRIE WARREN E) 15 October 1996 (1996-10-15)

- 2 Although claims 1, 10, 18, 24, 28, 40 and 50 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness (Article 6 PCT).

The claims should be recast to include only the minimum necessary number of independent claims in any one category. In the present case it is considered appropriate to use only one independent system claim per category.

Moreover, lack of clarity of the claims as a whole arises, since the plurality of independent claims makes it difficult, if not impossible, to determine the matter for which protection is sought, and places an undue burden on others seeking to establish the extent of the protection.

Hence, the claims as a whole do not meet the requirements of Article 6 PCT.

- 3 Independent claim 1

The above-mentioned lack of clarity notwithstanding, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

Document D1 discloses (the references in parenthesis applying to this document):
a shipping container, comprising

an enclosure for receiving at least one product (col. 5, lin. 55-58, ref. 10);

a sensor on the enclosure capable of detecting a condition (col. 6, lin. 17-35, ref. 38, 40, 42);

a server on the enclosure communicating with the sensor (col. 5, line 58, ref. 30);

and

means for enabling communications between the server and a remote location (col. 7, lin. 5-17).

4 Independent claim 10

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 10 is not new in the sense of Article 33(2) PCT.

Document D1 discloses:

a method of monitoring a shipping container, comprising the steps of providing a shipping container, said shipping container including an enclosure for receiving at least one product (col. 5, lin. 55-58, ref. 10), a sensor on the enclosure (col. 6, lin. 17-35, ref. 38, 40, 42), a server on the enclosure communicating with the sensor (col. 5, line 58, ref. 30), and means for enabling communications between the server and a remote location (col. 7, lin. 5-17); detecting a condition with the sensor during transit between an origin and a destination (col. 6, lin. 17-35, ref. 38, 40, 42); and determining whether the condition is an unacceptable condition (col. 7, lin. 17-23 and col. 8, lin. 21-33)

5 Independent claim 18

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 18 does not involve an inventive step in the sense of Article 33(3)PCT.

Document D1, which is considered to represent the most relevant state of the art to the subject matter of claim 18, discloses (the references in parenthesis applying to this document):

a method of facilitating shipment of a container from an origin to a destination, comprising the steps of providing a shipping container, said shipping container including an enclosure for receiving at least one product (col. 5, lin. 55-58, ref. 10), a server on the enclosure communicating with the sensor (col. 5, line 58, ref. 30), and means for enabling communications between the server and a remote location (col. 7, lin. 5-17).

The subject-matter of independent claim 18 differs from the disclosure of D1 in that the method further comprises the steps of:
supplying the server, before transit between the origin and the destination, with information related to the at least one product;
communicating between the server and the remote location, in response to the information, either during transit between the origin and the destination or at the destination;
determining, in response to the information, how to handle the shipping container.

The problem to be solved by the present claim may therefore be regarded as how to have an precise inventory in the container.

In view of D3 the solution proposed in claim 18 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT), see D3, col. 10, lin. 1-26.

Therefore the features disclosed in D1 and D3 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 28 thus cannot be considered inventive (Article 33(3) PCT).

6 Independent claim 24

The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 24 is not new in the sense of Article 33(2) PCT. Document D3 discloses (the references in parenthesis applying to this document):
a shipping container for detecting conditions of other shipping containers (col. 3, lin. 22-32), comprising:
an enclosure (col. 3, lin. 33-37);
a sensor on the enclosure for detecting conditions of the other shipping containers (col. 3, lin. 62 - col. 4, lin. 13);
a server on the enclosure communicating with the sensor (ref. 27); and
means for enabling communication between the server and a remote location (ref. 25, 43').

7 Independent claim 28

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 28 does not involve an inventive step in the sense of Article 33(3)PCT.

Document D1, which is considered to represent the most relevant state of the art to the subject matter of claim 28, discloses (the references in parenthesis applying to this document):

a shipping container comprising
an enclosure for receiving at least one product (col. 5, lin. 55-58, ref. 10);
a server on the enclosure adapted to communicate with the sensor and a location remote from the enclosure (col. 5, line 58, ref. 30);

The subject-matter of independent claim 28 differs from the disclosure of D1 in that the shipping container has a conductive grid operatively associated with the enclosure, a power source connected to the conductive grid and adapted to energize the conductive grid and
a sensor on the enclosure adapted to monitor a condition associated with the conductive grid.

The problem to be solved by the present invention may therefore be regarded as how to improve the security of the inside of the container.

In view of D2 the solution proposed in claim 28 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT), see D2, col. 3, lin. 34-50 and col. 4, lin. 25-60.

Therefore the features disclosed in D1 and D2 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 28 thus cannot be considered inventive (Article 33(3) PCT).

8 Independent claim 40

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 40 does not involve an inventive step in the sense of Article 33(3)PCT.

Document D1, which is considered to represent the most relevant state of the art to the subject matter of claim 40, discloses:

a method of monitoring a shipping container, comprising
communicating the sensed condition to a server associated with the enclosure (col. 5, line 58, ref. 30); and
transmitting the served condition from the server to a remote location (col. 5, line 58, ref. 30 and col. 7, lin. 5-17)

The subject-matter of independent claim 40 differs from the disclosure of D1 in that the method further comprises the steps of energizing a conductive grid provided within an enclosure and sensing a condition associated with the conductive grid.

The problem to be solved by the present invention may therefore be regarded as to detect an burglar and to the inside of the container.

In view of D2 the solution proposed in claim 40 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT), see D2, col. 3, lin. 34-50 and col. 4, lin. 25-60.

Therefore the features disclosed in D1 and D2 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 40 thus cannot be considered inventive (Article 33(3) PCT).

9 Independent claim 50

The present application does not meet the criteria of Article 33(1) PCT, because the subject matter of claim 50 does not involve an inventive step in the sense of Article 33(3)PCT.

Document D1, which is considered to represent the most relevant state of the art to the subject matter of claim 50, discloses (the references in parenthesis applying to this document):

a system for detecting an intrusion into a shipping container, comprising
an enclosure adapted to receive at least one product (col. 5, lin. 55-58, ref. 10);

a server on the enclosure adapted to communicate with the sensor and generate a wireless system about the enclosure (col. 5, line 58, ref. 30 and col. 7, lin. 5-17);
and
a remote computing device adapted to wirelessly communicate with the server by way of the Internet (ref. 68, 70).

The subject-matter of independent claim 50 differs from the disclosure of D1 in that the system further comprises
a conductive grid operatively associated with the enclosure;
a power source connected to the conductive grid and adapted to energize the conductive grid;
a sensor on the enclosure adapted to monitor a condition associated with the conductive grid.

The problem to be solved by the present invention may therefore be regarded as to have an autarchy security for a container.

In view of D2 the solution proposed in claim 50 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT), see D2, col. 3, lin. 34-50, Fig. 3, 4 and col. 4, lin. 25-60.

Therefore the features disclosed in D1 and D2 would be combined by the skilled person, without exercise of any inventive skills in order to solve the problem posed. The proposed solution in independent claim 50 thus cannot be considered inventive (Article 33(3) PCT).

- 10 Dependent claims 2-9, 11-17, 19-21, 25-27, 29-32, 35-36, 41-49, 51-56 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step (Article 33(2) and (3) PCT).

- 11 Suggestions for new claims to be filed

As far as can be understood (see part 2, of this communication), the combination of the features of dependent claims 22, 23 and 37-39 is neither known from, nor

rendered obvious by, the available prior art.

The examiner suggests that a new independent claim, formulated based on a clarified version of this claim could satisfy the conditions of Art. 33(1) PCT.

Although the examiner has suggested more than one claim which could be used as a basis for a possible allowable independent claim, it is not the intention of the examiner to suggest that a multiplicity of independent claims in the same category should be filed.

In any new claims to be filed the examiner considers it appropriate to file one independent claim per category in accordance with Rule 13 PCT. Additionally the new claims should relate to a single invention or common inventive concept in accordance with Rule 13 PCT.

12 Industrial applicability of claims 1 to 56

Claims 1 to 56 appear to meet the requirements of the PCT with respect to industrial applicability (Article 33(4) PCT).